United States Department of Agriculture | Forest Service | Arizona Zone Entomology and Pathology | 2500 S. Pine Knoll Dr. Flagstaff, AZ 86001 FAX: (520) 556-2130 Voice: (520) 556-2073

File Code: 3410 **Date:** 9/24/99
Route To:

Subject: Insect Activity in and around the Alpine Ranger District of the Apache Sitgreaves National Forest

To: Philip Settles, District Ranger

On August 18, 1999, Arizona Zone Entomologist, Bobbe Fitzgibbon, met with the Alpine District Silviculturist, Monica Boehning, to field check several areas of ponderosa pine habitat on both private and Forest Service land. Monica had sent short and long term weather data to our office so that we could review the history of conditions leading up to the present situation. The purpose of the visit was to assist District personnel with information to answer public inquiries about the visible insect and abiotic damage that was occurring in the area, and to make them aware of alternatives available to the forest and private landowners to deal with the damage.

The damage was found to be threefold: (1) Due to drought much abiotic damage was seen on the trees; (2) A needle miner outbreak, probably a species of ponderosa pine needle miner, *Coleotechnites ponderosae,* which has been extensively noted this year in the ponderosa pine type in northern and eastern Arizona; (3) A twig beetle, *Pityophthorus* spp., outbreak on the branch tips of many of the pines in the eastern part of Arizona. The insect damage may be a secondary impact following drought stress to the trees. The data sent to us by Monica Boehning indicates a history of drought prior to the outbreak. There was a concern that the stress of these three factors might lead to a pine beetle outbreak in the ponderosa pine type.

Aerial detection survey (ADS) revealed this infestation to be extensive within the ponderosa pine type in the areas surrounding Nutrioso, acreages will be available when the maps have been analyzed.

Ponderosa pine needle miner is a small narrow-winged gray moth. The larvae hatch in the fall and bore into the needles where they overwinter and resume feeding in the spring. When populations are high many needles are damaged on susceptible trees. While this is aesthetically problematic, there have been no reports of extensive tree mortality caused by this insect. Damaged needles generally fall in the autumn. In a forested situation, control measures are not warranted. In a landscape situation, additional care such as fertilization or watering periodically during dry periods may be appropriate.

The twig beetle was noted in the same area as the needle miner and at other locations in eastern Arizona. The damage was not visible from the air during the ADS flight, thus, data available is from ground sightings. There are 120 species in the genus *Pityophthorus,* twenty of which are known to occur on ponderosa pine. None of the species are economically important. As a group they are thought to be mildly beneficial in the process of natural twig pruning.

On a previous flight in July, I had noticed severe discoloration of the ponderosa pine foliage in a large area which included Big Lake and parts of the Fort Apache Indian Reservation. However,

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by the time I was able to do a ground check in the Nutrioso area with Monica, some improvement had already occurred. The amount of precipitation received in the last two months should aid in relieving the stress to the pines. The incidence of bark beetles causing tree mortality in that area during the ADS was low, the figures should be available soon. Based on the elimination of drought stress, and low numbers of bark beetles other than the *Pityophthorus,* no action seems to be needed at this time. Continued monitoring of bark beetle populations is always prudent stewardship. In residential settings, appropriate landscaping maintenance is also prudent.

The continued surveillance that has been exhibited by your staff has made our job of assisting you on insect and disease issues much easier. I wish to thank them for their efforts. If you have any questions about this letter or the insects described, please feel free to contact me at 520-556-2072. If we can be of further assistance on current insect and disease issues or as a part of your planning processes please don't hesitate to call our unit.

Bobbe Fitzgibbon, Entomologist

cc:
Leonard Lucero
Doug Parker
Debra Allen-Reid
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